



# **Desktop Evaluation Short Form for Small and Medium Public Water Systems Optimum Corrosion Control Treatment (OCCT) Recommendation**

## **Section A. General Information:**

System Name: \_\_\_\_\_

System Identification Number (7digit): \_\_\_\_\_

Contact Name: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

E-mail Address: \_\_\_\_\_

City, State, Zip: \_\_\_\_\_

Telephone: \_\_\_\_\_

Fax: \_\_\_\_\_

Primary Population Served: \_\_\_\_\_

Secondary Population Served: \_\_\_\_\_

Sender's Name (printed): \_\_\_\_\_

Sender's Telephone: \_\_\_\_\_

Signature: \_\_\_\_\_

## **Section B. Technical Information:**

### **1. Monitoring Results:**

Sampling Dates: From \_\_\_\_\_ To \_\_\_\_\_

#### **Most Recent First-Flush Tap Monitoring Results:**

Lead:

Minimum Concentration: \_\_\_\_\_ mg/L

Maximum Concentration: \_\_\_\_\_ mg/L

90th Percentile: \_\_\_\_\_ mg/L

Copper:

Minimum Concentration: \_\_\_\_\_ mg/L

Maximum Concentration: \_\_\_\_\_ mg/L

90th Percentile: \_\_\_\_\_ mg/L

#### **Source Water Point(s)-of-Entry Tap Monitoring Results:**

#### **Points of Entry**

1                  2                  3                  4                  5                  6

Lead Concentration in mg/L:

\_\_\_\_\_

Copper Concentration in mg/L:

\_\_\_\_\_

pH:

\_\_\_\_\_

Temperature, °C:

\_\_\_\_\_

Alkalinity, mg/L as CaCO<sub>3</sub>:

\_\_\_\_\_

Calcium, mg/L as Ca:

\_\_\_\_\_

Conductivity, µmho/cm@25 °C:

\_\_\_\_\_

\*Phosphate, mg/L as P:

\_\_\_\_\_

\*Silicate, mg/L as SiO<sub>2</sub>:

\_\_\_\_\_

*\*Required only if adding corrosion inhibitor*

## Monitoring Results (continued):

### Distribution System Water Quality Parameter Monitoring Results:

Indicate (check) whether field or laboratory measurement.

pH:			Field	Lab
minimum	_____	units		
maximum	_____	units	<input type="checkbox"/>	<input type="checkbox"/>
Alkalinity:				
minimum	_____	mg/L as CaCO <sub>3</sub>		
maximum	_____	mg/L as CaCO <sub>3</sub>	<input type="checkbox"/>	<input type="checkbox"/>
Temperature:				
minimum	_____	°C		
maximum	_____	°C	<input type="checkbox"/>	<input type="checkbox"/>
Calcium:				
minimum	_____	mg/L as Ca		
maximum	_____	mg/L as Ca	<input type="checkbox"/>	<input type="checkbox"/>
Conductivity:				
minimum	_____	µmho/cm@25 °C		
maximum	_____	µmho/cm@25 °C	<input type="checkbox"/>	<input type="checkbox"/>
Orthophosphate: (if phosphate-based inhibitor is used)				
minimum	_____	mg/L as P		
maximum	_____	mg/L as P	<input type="checkbox"/>	<input type="checkbox"/>
Silica: (if silica-based inhibitor is used)				
minimum	_____	mg/L as SiO <sub>2</sub>		
maximum	_____	mg/L as SiO <sub>2</sub>	<input type="checkbox"/>	<input type="checkbox"/>

## 2. Existing Conditions:

Is treatment used? ☐ yes ☐ no

### Identify Water Source(s)

Source No. 1 \_\_\_\_\_

Source No. 2 \_\_\_\_\_

Source No. 3 \_\_\_\_\_

If treatment is used, is more than one source used at a time? ☐ yes ☐ no

### Identify Treatment Processes Used for Each Source:

Process	Source No. 1	Source No. 2	Source No. 3
Presedimentation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Aeration	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chemical Mixing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Flocculation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sedimentation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Recarbonation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Existing Conditions (continued):

### Identify Treatment Processes Used for Each Source:

Process	Source No. 1	Source No. 2	Source No. 3
2nd Stage Mixing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2nd Stage Flocculation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2nd Stage Sedimentation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Filtration:			
Single Medium	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dual Media	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Multi-Media	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
GAC Cap on Filters	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Disinfection:			
Chlorine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chlorine Dioxide	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chloramines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ozone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Granular Activated Carbon	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
List Chemicals Normally Fed:			
List Chemicals Sometimes Fed:			

### 3. Present Corrosion Control Treatment:

☐ Check Here if None

☐ Check Here if Corrosion Inhibitors are Presently Used

Date Initiated: \_\_\_\_\_

Present Dose: \_\_\_\_\_

Range in Residual in Distribution System:

Maximum: \_\_\_\_\_ mg/L      Minimum: \_\_\_\_\_ mg/L

Brand Name: \_\_\_\_\_

Type: \_\_\_\_\_

Has it been effective? Please comment on your experience.

☐ Check Here if pH/Alkalinity Adjustment is Presently Used

pH Target: \_\_\_\_\_

Alkalinity Target: \_\_\_\_\_ mg/L CaCO<sub>3</sub>

☐ Check Here if Calcium Adjustment is Presently Used

Calcium Target: \_\_\_\_\_ mg/L CaCO<sub>3</sub>

#### 4. Source and Treated Water Quality:

Complete the table below for typical untreated and treated water quality data. Copy this form as necessary for additional sources. Include data for each raw water source, if surface supplies are used, and finished water quality information (point of entry) from each treatment plant. If wells are used, water quality information from each well is acceptable but not necessary if several wells have similar data. For groundwater supplies, include a water quality summary from each wellfield or grouping of wells with similar quality.

Source Name: \_\_\_\_\_ Treatment Plant (if applicable): \_\_\_\_\_

Parameter	Untreated Supply	Treated Water (point of entry)
pH, units		
Alkalinity, mg/L as CaCO <sub>3</sub>		
Conductivity, µmho/cm@25 °C		
Total Dissolved Solids, mg/L		
Calcium, mg/L Ca		
Hardness, mg/L as CaCO <sub>3</sub>		
Temperature, °C		
Chloride, mg/L		
Sulfate, mg/L		

#### 5. Distribution System:

Does the distribution system contain lead service lines?

☐ yes ☐ no

If your system has lead service lines, mark below the approximate number of lines which can be located from existing records.

☐ None ☐ Some ☐ Most ☐ All

How often is the distribution system flushed?

☐ None ☐ Weekly ☐ Bi-weekly ☐ Monthly ☐ Quarterly ☐ Semi-annually ☐ Yearly

## 6. Historical Information:

Is there a history of water quality complaints?

☐ yes ☐ no

If yes, are the complaints documented?

☐ yes ☐ no

If yes, briefly summarize the most common types of complaints.

Have there been any corrosion control studies?

☐ yes ☐ no

If yes, please indicate:

Date(s) of study, From: \_\_\_\_\_ To: \_\_\_\_\_

Study conducted by water system personnel?

☐ yes ☐ no

Brief results of the study were:

Study Results Attached (Optional):

☐ yes ☐ no

Were treatment changes recommended?

☐ yes ☐ no

If yes:

Were treatment changes implemented?

☐ yes ☐ no

Have corrosion characteristics of the treated water changed?

☐ yes ☐ no

If yes, how has change been measured?

General Observation ☐

Coupons ☐

Frequency of Complaints ☐

Other ☐

Briefly Indicate, if Other:

## 7. Optimum Corrosion Control Treatment (OCCT) Recommendation:

The Corrosion Control Treatment Method Being Proposed Is:

☐ pH/Alkalinity Adjustment

Target pH: \_\_\_\_\_ units

Target Alkalinity: \_\_\_\_\_ mg/L as  $\text{CaCO}_3$

☐ Calcium Adjustment

Target Calcium Concentration: \_\_\_\_\_ mg/L Ca

☐ Inhibitor

Phosphate Based

Brand Name: \_\_\_\_\_

Target Dose: \_\_\_\_\_ mg/L

Target Residual: \_\_\_\_\_ mg/L Orthophosphate as P

Silica Based

Brand Name: \_\_\_\_\_

Target Dose: \_\_\_\_\_ mg/L

Target Residual: \_\_\_\_\_ mg/L Orthophosphate as P

☐ Other (Describe Briefly):

Rationale for the Proposed Corrosion Control Treatment Is (Choose One):

☐ Discussed in the enclosed report

☐ Briefly explained below:

**Optimum Corrosion Control Treatment (OCCT) Recommendation (continued):**

If chemicals are to be added or if the properties of the water are to be altered, list your proposed operating guidelines:

Parameter(s)	Operating Range / Residual Level

Briefly explain how these guidelines were selected.

**8. Comments:**

Please provide any additional comments that may assist the Department in determining optimal corrosion control treatment for your water system.

Purpose: This form is to be used by small and medium public water systems for evaluation of an optimum corrosion control treatment (OCCT) recommendation.

ITEM BY ITEM INSTRUCTIONS FOR COMPLETING THIS FORM:

**Section A. General Information:**

Enter the system name, 7-digit system identification number, contact name, system mailing address, e-mail address, telephone and fax number.

Enter the number of primary and secondary population served.

Print the sender's name (the person who filled out the form) and telephone number and sign at the bottom of Section A.

**Section B. Technical Information**

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1. Monitoring Results

Enter the sampling dates. Enter the minimum concentration, maximum concentration, and 90<sup>th</sup> percentile for lead and copper from the most recent first-flush tap monitoring. Enter data for each of the parameters listed for each source water point of entry.

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Enter data for each listed parameter for distribution system water quality. For each parameter, check either field or lab measurement.

2. Existing Conditions

Check yes or no to indicate whether treatment is currently used. Identify each water source used.

If treatment is used, check yes or no to indicate if more than one source is used at a time. Check each treatment process that is applicable for each source used.

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Check each treatment process that is applicable for each source used. List chemicals that are normally fed. List chemicals that are sometimes fed.

3. Present Corrosion Control Treatment

Check whether corrosion control inhibitors are presently used. If used, enter the date initiated, present dose, range in the distribution system, brand name and type. Briefly describe the effectiveness of the treatment. Check first box if pH/Alkalinity adjustment is presently used. If checked, enter the target pH and alkalinity. Check second box if calcium adjustment is presently used. If checked, enter the target calcium concentration as mg/L CaCO<sub>3</sub>.

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4. Source and Treated Water Quality

Complete the table for typical treated and untreated water quality data. Include additional copies of



page 4 of 7 for each raw water source, wellfield, or grouping of wells.

#### 5. Distribution System

Check yes or no if the system contains lead service lines. If yes, indicate none, some, most or all for the approximate number of lines which can be located from existing records. Check the frequency of distribution system flushing.

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#### 6. Historical Information

Check yes or no for a history of water complaints. If yes, check whether these complaints have been documented. If complaints have been documented, briefly summarize the most common complaints. Check yes or no for corrosion control studies. If yes, indicate dates, if the study was conducted by system personnel, and briefly describe the results. Indicate whether the study results are attached (including results is optional). Indicate if treatment changes were recommended. If yes, indicate whether changes were implemented and if the corrosion characteristics have changed. Check any methods used to measure change. Provide a description if other.

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#### 7. Optimum Corrosion Control Treatment (OCCT) Recommendation

Check each corrosion control treatment method being proposed. Enter required data for each checked method. If other, briefly describe the method. Enclose a report which explains rationale for proposed method or briefly explain in the space provided.

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Enter each parameter that will be used and the operating range or residual level for that parameter. In the space provided, explain how the guidelines were selected.

#### 8. Comments

Provide any additional comments which may assist the Department in determining optimum corrosion control treatment for your water system.

Office Mechanics and Filing: This form is to be returned to DHEC, Monitoring and Compliance Section. The form is then forwarded to the Compliance Assurance Division for review. The form is filed with the Lead and Copper files.